



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,055	05/01/2001	Philip Stark	126381.620	4565
7590	09/03/2004			EXAMINER
RAYMOND A. MILLER PEPPER HAMILTON LLP ONE MELLON CENTER 50TH FLOOR 500 GRANT STREET PITTSBURGH, PA 15219			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	
DATE MAILED: 09/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/847,055	STARK ET AL.	
	Examiner C. Melissa Koslow	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 June 2004 and 20 July 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24, 78-82 and 102-105 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4, 6, 7, 9-24, 78-82, 102 and 104 is/are rejected.
 7) Claim(s) 5, 8, 103 and 105 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 03 June 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 5/7/04.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

This action is in response to the arguments and terminal disclaimer of 3 June 2004 and the amended claims of 20 July 2004. The amendments to the claims have overcome the art rejections, the 35 USC 112 rejections and the claim objections. The terminal disclaimer filed on 3 June 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. patent 6,056,844 has been reviewed and is accepted. The terminal disclaimer has been recorded. Accordingly, the obviousness-type double patenting rejection is withdrawn.

Applicants' account 50-0436 has been charged \$180.00, which is the fee set forth in 37 CFR 1.17(p) for filing an information disclosure statement after the first action and where there is no statement as specified in 37 CFR 1.97(e). The information disclosure statement was filed on 7 May 2004, which was after the first action that was mailed on 29 January 2004.

The drawings are objected to because the individual lines in new figures 18 and 19 cannot be distinguished from each other. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s)

should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to
09/02/2004 PFENNELL 0000001 500436 09847055

obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim 79 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

It is unclear how this claim further limits the composite of claim 78. This claim either sets forth the known fact that the Curie temperature changes with varying zinc content or is directed to the process of varying the Curie temperature. Neither interpretation further limits the composite of claim 78.

Claims 14, 21, 81, 102 and 104 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14, 21 and 81 list the same compound twice in the compound polypropylene/polyamide/nylon. Nylon is the trade name for polyamide. These claims are also indefinite since use a trade name as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of the 35 U.S.C. 112, second paragraph. *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. In fact, the value of a trademark would be lost to the extent that it became descriptive of a product, rather than used as an identification of a source or origin of a product. Thus, the use of

a trademark or trade name in a claim to identify or describe a material or product would not only render a claim indefinite, but would also constitute an improper use of the trademark or trade name. Claims 102 and 104 list Zn/Co-2Y and Zn/Mg-2Y twice since the claims require Co or Mg to be partially substituted with zinc and applicants have used the shorthand formulas “Zn/Co-2Y” and “Zn/Mg-2Y” to represent this. It is suggested to delete “Zn/Co-2Y” and “Zn/Mg-2Y” from these claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 9, 14-18, 20-23, 78, 80 and 81 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 498,988.

This reference teaches a composite comprising a polymer and magnetic ferrite particles, preferably spinel ferrite particles which are known to have the formula MFe_2O_4 , where M is a transition metal, which has a Curie temperature corresponding to a selected heating temperature, such as the thermosetting temperature, the curing temperature, the melting temperature or the fusion or softening temperature of the polymer. These temperatures are processing temperatures. While the preferred magnetic ferrite particles are spinel ones, the broad teaching indicates magnetic ferrite particles can also be hexagonal ferrite particles. Ferromagnetic ferrites are known to be electrically non-conductive. The particles are dispersed throughout the polymer and have a size in the range of 0.001-0.1 micron, which falls within the claimed range. The reference teaches the polymer can be a thermoplastic material, such as polyamides and polyolefins, which

includes polyethylene and polypropylene. For thermosetting materials, the curing temperature is lower than the melting temperature of these material. For thermoplastic material, the fusion temperature is lower than the melting point of the material. The reference also teaches choosing a Curie temperature above the melting point of a polymer to allow the melted polymer to be removed from a composition comprising it. This temperature above the melting point is a processing temperature since allows the polymer to be processed. The reference teaches the claimed composite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 498,998.

As stated above, this reference teaches the claimed composite. The reference teaches the ferrite should have a Curie temperature in the range of 50-700°C which overlaps the claimed range. The amount of ferrite in the composite is 0.1-10 wt%, which when converted to volume percent appears to overlap the claimed range. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The reference suggests the claimed ferrite.

Claims 24 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 498,998 as applied to claims 17 and 78 above, and further in view of U.S. patent 5,427,846.

As discussed above, EP 498,998 teaches the claimed composite. It does not give any specific composition of the taught ferrite. The U.S. patent teaches a nickel-zinc ferrite having a Curie temperature of 180°C, which is substantially similar to the fusion temperature of polyvinyl chloride (about 175°C). Thus one of ordinary skill in the art would have found it obvious to use the taught $(\text{Ni},\text{Zn})\text{OFe}_2\text{O}_3$ ferrite of U.S. patent 5,427,846 as a ferrite in the taught polyvinyl chloride/ferrite composite of EP 498,998. The references suggest the claimed composite.

Claims 19, 24 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 498,998 as applied to claims 17 and 78 above, and further in view of U.S. patent 6,120,856.

As discussed above, EP 498,998 teaches the claimed composite. It does not give any specific composition of the taught ferrite. The U.S. patent teaches manganese ferrite has a Curie temperature of 286°C, which is substantially similar to the melting temperature of polyester (about 280°C). Thus one of ordinary skill in the art would have found it obvious to use the taught ferrite of U.S. patent 6,120,856 as a ferrite in the taught polyester/ferrite composite of EP 498,998. The references suggest the claimed composite.

Claims 2-4, 78, 79 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 498,998 as applied to claims 1 and 78 above, and further in view of U.S. patent 3,638,207.

As discussed above, EP 498,998 teaches the claimed composite. It does not give any specific composition of the taught ferrite. The U.S. patent teaches Mg-2Y has a Curie temperature of 177°C, which is substantially similar to the melting temperature of polyvinyl chloride (about 175°C) and polypropylene (about 176°C). Thus one of ordinary skill in the art

would have found it obvious to use the taught ferrite of U.S. patent 3,638,207 as a ferrite in the taught polyvinyl chloride/ferrite composite of EP 498,998. The references suggest the claimed composite.

Claims 5, 8, 103 and 105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 102 and 104 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

There is no teaching or suggestion in the cited art of record of a composition comprising a matrix material and ferromagnetic hexagonal ferrite particles, where the ferrite particles have a Curie temperature substantially similar to a processing temperature of the matrix material, where the particles are on the surface of the matrix material. There is no teaching or suggestion in the cited art of record of a composition comprising a matrix material and ferromagnetic hexagonal ferrite particles, where the ferrite particles have a Curie temperature substantially similar to a processing temperature of the matrix material, where the particles have a size in the range of about 1-840 microns. There is no teaching or suggestion in the cited art of record of a composition comprising a matrix material and ferromagnetic hexagonal ferrite particles, where the ferrite particles have a Curie temperature substantially similar to a processing temperature of the matrix material, where the particles are selected from (Sr,Zn)Fe₁₂O₁₉, Zn/Co-2Y or Zn/Mg-2Y.

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 7 May 2004 prompted the new ground(s) of rejection presented in this Office action. In addition, applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

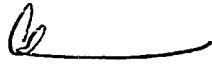
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
September 1, 2004


C. Melissa Koslow
Primary Examiner
Tech. Center 1700